

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

VOICES OF IPM FARMERS

REGIONAL IPM PROGRAMME IN THE NEAR EAST

GTFS / REM / 070 / ITA





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Regional Integrated Pest Management (IPM) Programme in the Near East

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FAO Regional IPM Programme in the Near East

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Introduction

■ This booklet is meant to provide stories narrated by farmers who participated in the FAO Regional Integrated Pest Management (IPM) Programme in the Near East (hereinafter “the Project”); the stories witness the importance of their participation in improving their personal and community livelihood.

Furthermore, the booklet shows, through examples taken from the farmers real life, how the Project has been successful in introducing and strengthening sustainable agricultural practices in its target areas, with particular focus on reducing chemical pesticides applications.

The stories of this publication are a sample of stories collected within the approximately 17,000 beneficiaries directly involved in the Project. Their content vary from the acquisition of IPM knowledge to the improved practices developed in the field; from community empowerment to the acquisition of marketing skills; from women empowerment to the creation of strategic partnerships.



Finally, all of them highlight that food security can be considerably strengthened, and remain sustainable in time, if it is targeted using a community-based approach. However, a crucial prerequisite is the continuous commitment of the Governments and the international, national and local communities in supporting “community based” activities.

Project Objectives

- Increased sustainable and cost effective crop production
- Reduced environment and health risks related to pesticides
- Community empowerment

Target Countries

Since 2004 (Project starting date): Egypt, Iran, Jordan, Lebanon, Palestinian Territories, and Syria
Since 2010 (Added by a Project Amendment and Extension): Algeria, Iraq, Morocco, and Tunisia.

Foreword by Dr. Alfredo Impiglia - Regional Project Coordinator

■ “I would like to start by personally thanking all the farmers, facilitators and Project partners for the continuous support and contribution they provided to the FAO Regional IPM Programme in the Near East - GTFS/REM/070/ITA - since its inception in 2004.

Today we are aware that many people, in the Region, are interested in learning & adopting IPM techniques using participatory extension methodologies such as the Farmer Field Schools (FFS). That is why our commitment to promote sustainable agriculture systems and offer alternatives to chemical pesticide applications has not yet come to an end.

Through this booklet, the Project intends to show that, in a world where one billion people are suffering from hunger, there are examples of success in agricultural production and farmers livelihoods can be improved not only by supporting their technical skills but also by empowering them as individuals, providing them with the knowledge and the confidence to be proactive elements for the development of their communities.

The Project aims at building a platform for the Near East and North African Countries, where people can share information and lessons learnt on IPM and FFS. We want the experience of each participating Country in the GTFS/REM/070/ITA Project to be a resource for the others.

We must capitalize on each effort made, on the improved skills and on the strategies developed in order to successfully respond to the growing local needs. I firmly believe that we need to look forward, learning from the past to build a better future.

The Project still has many challenges to face at regional, national and local level; however, it will continue to offer its technical support in promoting local adaptation of IPM strategies, training people and empowering farmers with unchanged focus and commitment.



Farmers can produce their own strawberry runners and even.... sell them. What a gain!!!

■ In Egypt, strawberry growers usually procure the needed strawberry runners from specialized nurseries and agricultural companies. Generally, the cost is around 2,000 Egyptian Pounds / feddan (equal to 350 US\$/ 0.42 ha); now, thanks to the support of the Project, some farmers can produce their own strawberry runners with a consistent saving. What a gain!!!

Several farmers became so skilled that they can even produce runners at commercial scale for local and international markets. This is the case of Mr. Ahmed El-Hefnawy, a farmer that attended the FFS programme of the Project in 2005. Before joining the strawberry FFS, he, like all the other farmers of his village, used to buy strawberry runners from specialised nurseries operating in the district. Then, through the FFS on strawberry nurseries, farmers learnt how to produce healthy strawberry runners from mother plants (a mother plant is a term that describes a plant from which you can take cuttings to maintain healthy berry production for the coming season).

Ahmed improved his skills and, thanks to his entrepreneurial attitude, he started producing runners for his neighbours, then for the local market, and, now, for export!!! In fact, Ahmed exports to countries like Libya and Tunisia.

Nowadays, he is exporting 900,000 strawberry runners and 11,000 mother plants to Libya and 1 million strawberry runners to Tunisia. At the same time, he obtained contracts for the local market and for other Egyptian Governorates like Behera, Sharkya, Qalyoubia and Ismailia.

Not enough, now Ahmed is also introducing the IPM approach in his banana field!

It is worth to say, that now, other strawberry growers, who participated in the Project, are able to produce their own runners saving a consistent amount of money, but only Ahmed has been able to make a step further making runners production a real business.



Women empowerment in agriculture

■ The IPM community based approach is not only valuable for the sustainability ensured, but it also produces a multiplier effect in facilitating local aggregation especially for vulnerable groups.

Ms. Ebadi from Asiabtanour village, in Karand at Kermanshah province is a witness of how the women associations have been strengthened through the IPM/FFS Programme of project. The major products of the village are apple, pear, lentils, and barley. Apple is the only crop produced for marketing and not only for family use; recently, apple crop faced numerous problems related to pest control. A group of farmers including Ms. Ebadi and her husband were involved in an FAO IPM/FFS for apple. By participating actively in two consecutive seasons, Ms. Ebadi and her husband have improved their skills and started to experiment IPM in their orchard, as she says: “We attended the first IPM/FFS in 2008. At the beginning, I had little information about pest management but, gradually, I learned how to control pests; now, I am really confident on that!



I learned how to use pheromone traps, light traps and lanterns to hunt the moths. I believe that the best way to control pests is to prevent the worm from penetrating into the fruit. For this reason, we collect fruits that have been attacked. Then, we put the fruits in a bucket full of water, so worms die. In this way, we minimize the number of larvae that change to the moth stage. Some of our fellow farmers bury the infected apples after taking them out from the bucket, but, I use them to feed my chicken, because worms are a rich nutrition source for them. Another

way that we use to control the moth is to wrap cartoon strips around the trunk of the apple trees. In this way the codling moth larvae are easily trapped, resulting in a big reduction of the pest population. Thanks to these and other methods learned during the FAO FFS, we do not apply pesticides anymore in our fields”. All along the learning process, relying on the confidence acquired by the results obtained, Ms Ebadi actively contributed to set up a women’s community association where all the members are using their savings to implement sustainable agricultural activities.

In Kermanshah, there are 28 other similar organizations, with 1,027 members and the 22 IPM/FFS women facilitators working with the Programme played a key role in supporting their establishment multiplying considerably the impact of the activities in the area.

IPM: from scepticism to enthusiasm

■ The IPM approach, when newly introduced to farmers, appears extremely revolutionary and requires a radical change in the traditional farmers' habits raising doubts and/or lack of confidence which are hard to be overtaken. The story of Mansour Abbasian, a pistachio farmer from Zarrinabad village in the Damghan Township, is emblematic in demonstrating how sceptical the communities can be and how the Project can manage to obtain their trust.

“Before attending the FFS organized by the IPM Project, farmers in my village, used to heavily spray our pistachio orchards to control pests. For Psylla pest alone, we used to treat the orchards from 5 to 7 times a season. That was why in our community when we talked about spraying, we would ask each other: “when are you going to wash your trees?” But the more we applied chemicals, the higher was the population of Psylla. We always blamed the Government for that, because we thought that the chemicals recommended were not as good as in the past.

However, when I started attending the FAO FFS Programme, my mother and other family members used to warn me about the consequences on listening to that “person” - IPM/FFS facilitators - who suggests to stop spraying the orchard. Their concerns were quite understandable, because our trees are the only source of our income and they believed that, without sprays, it would be impossible to have a good harvest. It was very difficult at the beginning to believe that what we were learning in the IPM/FFS could make a difference in our real life and on our orchards.

Anyway, we attended the FFS and our attitude changed completely when, just in one season, we started to recognize the difference between useful and harmful bugs; we studied their lifecycle; we observed how the useful bugs eat the harmful ones!

We, as a community, learned for the first time that pesticides were not the only way to control pests. Chemical pesticides can also destroy useful insects beside pests and could be harmful to the environment in general. In only two seasons, farmers started noticing good results from the IPM/FFS experiments.

Personally, I developed a strong sense of curiosity and - by chance - one day I had the opportunity to observe in my own orchard a lacewing larva that was feeding on Psylla. This made me more determined to create a safe environment for the growth of lacewings and other beneficial insects. Now, farmers in

our community, managed to minimize the use of pesticides through a better understanding of the local ecosystem.

The farmers of our village, who were attending the IPM/FFS, managed to save approximately four million Rials (400US\$) per orchard every season, an amazing result generally considered impossible just the year before! Moreover, our technical skills have improved and farmers are more aware of pesticides associated hazards to local environment and human health.

Our community is now recognized by local and also national agricultural authorities as a farming system model; we also organized ourselves in groups and even in associations, to produce and sell IPM products together. Recently, our community was requested by the RIPM Project to assist farmers of other communities to apply the IPM/FFS approach on mixed pistachio-grape orchards. It was a pleasure to share our knowledge with other farmers!! Some of us are, now, engaged with an association in Tehran selling IPM products without middlemen. This helps us making higher profit margins.

I am happy to say that the project contributed to strengthen links among farmers and I also believe that producing healthy and safe products contributed to create a more sustainable world which will guarantee a safer future for us and for our children.”

Confidence comes with knowledge

■ Ms. Asma Al-Eshoush is a Jordanian farmer. She is a 26 years old tomato grower in Ghour Safi, Karak Governorate. For 3 years she has been a member of a FAO IPM/FFS group. After 2 years she became a facilitator for a FFS composed by 15 women. Before having this experience, nobody in her family used to ask her for any technical help, but, now, she actively assists the work in the family's farm and ... not only!

“When I joined the project – Ms Asma says - I was shy to stand in front of other farmers, I couldn't discuss with them about agriculture, but, with time, I gained confidence, skills and information about IPM and agriculture in general; then, also my family started listening to me. Now, I take decisions in my farm, I plan for future actions, I can recognize pests and diseases of tomato and I am able to find environmentally friendly solutions. I am able to use better the fertilizers and to choose the right variety of tomato to plant in my farm.

In the family farm, besides tomato, we also plant squash, peas, bean and okra for the local market and for family consumption; so, we don't need to buy any vegetables and most notably, by decreasing the amount of pesticide up to 55%, we save a lot of money!

With the income from the farm, we can buy other goods for the family and pay the input needed for the new planting season with no stress. What an improvement!

Now, we are aware of the importance to produce and eat food free of pesticides. We don't get poisoned and then... sick anymore!

Thanks to the knowledge I have acquired in the IPM/FFS, I changed my attitude – I'm a farmer and my family trusts me; we plant different vegetables to decrease the risk due to the floating market prices and, moreover, many women ask me about tomato farming and I am glad to help them.



Lema Noem: From a shy student to a community leader

Ms Lema Noem is a Jordanian farmer who has been involved in the Project since its very beginning. “In 2004 the FAO RIPM Project in Jordan asked me to be trained to become an IPM/FFS facilitator for one group of farmers who grows greenhouse tomato in my village. At that time, I was working with my father in his farm and I felt too young, with no experience; I also felt strange, as a woman, to directly participate in a FFS...I had never dealt with other farmers!

Moved by curiosity I joined the group, and during the training I gained more knowledge about agronomy, ecology, IPM technical issues and I improved my self-confidence. Then, I started my first IPM/FFS as a facilitator. In the first season, I worked with 12 farmers, among them there were 5 women; in the second year, I led a group of 14 female farmers. Together, we learned how to solve our problems at farm level and we started introducing new technologies such as using bumblebees for pollination instead of hormones. Neighbouring farmers started asking us about it and many of them started using IPM techniques in their own farms.



I became more knowledgeable and even my father started asking me about some technical issues to solve problems in his farm. He was listening to me to improve crop production and pest management.

In 2007, my father died and my family allowed me to lead the farm and take decisions, because of the experience I gained through the IPM/FFS Project. Before the FFS training, I did not know anything about farming; I have only a secondary school certificate. Now, farmers in the area want to deal with me; I became a leader and a focal point in the area. Farmers ask me how to solve their problems and I like helping them!

Recently, in the village we established an association for female farmers to provide support to women in agriculture.

Sincerely, I want to thank the FAO IPM Project because I changed in better, both as a woman and as a farmer; and I can provide a useful service to my community”.

An award winning farmer

■ Mr. Shaher Gharaybeh is a farmer and one of the FFS members in the Jordan valley.

“When the FAO RIPM Project started working in my area with some farmers, I was only wondering if the price of our tomato could increase. After one cycle of the IPM/FFS, I could already reduce the costs of production by adopting the IPM principles I learned.

Now, I can say that I am an expert and I can manage my farm very well. I am aware of the importance of natural enemies, which help me to reduce the use of chemicals. I am able to find solutions for problems before they can have severe consequences, just by monitoring and observing my farm.

Through the FFS, I learnt how to share information and lessons learnt, considering it as a valuable resource for me and the others.



Now, we have community meetings and we feel like researchers, doing small field trials to understand more about ecosystems and our farming problems.

I now understand that previously we had the resources, but we did not know how to use them.

Last season, I obtained around 40% extra profit from my land, not because I sold my tomato at a higher price, but because I was able to reduce the cost of production and obtaining, at the same time, better

tomato quality. Finally, the revenue I had always dreamed about became a reality!

I now feel more confident than before and I can take better decisions related to farm management and pest control.

Last year, during the celebration of the FAO World Food Day, I was also awarded by my Minister of Agriculture as “Good farmer”.

This award makes me feel proud to produce healthy and high quality food at the same time for my family and Jordan.”



Keeping the dream alive

■ “This story begins 45 years ago in Srifa, Southern Lebanon, where my father bought a piece of land called Aarid-Kassem. He worked hard to grow his olive trees in this land and support his family with dignity. He used to spend most of his time in the olive grove taking care of the trees along with his family.

In 2005, after my father passed away, I, Abou Chadi, one of his children, inherited the olive grove, but I felt that I was unable to manage it properly; I used to visit the orchard only to harvest the few fruits produced; therefore the field conditions deteriorated quickly. During the war of 2006, the olive grove was heavily bombed and most of the trees were burnt or severely damaged. The dream of my father was reduced to ashes and I had no choice but to abandon it regretfully”.

In November 2008, the FAO RIPM Project decided to implement a FFS for olive growers in Srifa, to help farmers return to their normal life after the war. The Aarid-Kassem grove was selected for the IPM/FFS activities and was considered as an experimental field to host the FFS meetings. Abou Chadi, strongly motivated by the will of reviving the grove that his father had bought with many efforts, participated actively with his sons “For one year– Mr Abou Chadi says - I attended all the meetings of the IPM/FFS on olive and followed carefully all the topics that were raised.



“Now I have more confidence in agricultural activities and in olive. I have learnt about insects, diseases and how to manage olive pests with traps and environmentally friendly practices, how to prune olive trees,

how to fertilize my grove at the right time and in the right way. I improved my knowledge and skills, but I also succeeded in growing olives, obtaining a good profit by producing high quantity and quality of olive oil. Moreover, I improved my relation with the other farmers of my village and I have new friends whom I met during the FFS sessions. I feel happy that we found a way to come out from the ruins left by the war keeping my father’s dream alive! I feel more confident about the future relying on my work in my father’s olive grove. I hope that one day we will be able to export from Srifa our IPM product to let, people around the world, taste the high quality of the Lebanese olive oil”.

Now, the other farmers consult Abou Chadi to solve their agricultural problems, and consider him their local advisor.



IPM Innovation exceeding expectations

■ Mr. Karim Fayomi is a farmer from Qalqilia in the West Bank, Palestinian Territories. Mr. Karim started farming greenhouse vegetables in 1995: “At that time – he says – I used all kinds of pesticides and fertilizers available in the market, so that I could have a higher yield and fruits with no diseases.

Before being involved in the FAO FFS activities, I used 6 to 7 litres of insecticide per season for my 0.1 ha of greenhouse tomato. These insecticides were recommended by representatives of different agrochemical companies, who visited my farm regularly. The cost of these insecticides was about 600US\$ for my greenhouse per season, and another 500 US\$ for the fumigation with Methyl Bromide. I used to spray on average 40 times during the 10 month growing season

In 2005, I met Mr. Ayman Alem from the Qalqilia Agriculture Department who worked as facilitator for the FAO RIPM Project. Along with other agronomists, he tried to convince me, and other farmers in the area, to spray only when needed. I didn't trust him at first! But, he invited me to join the «Farmer Field School» of my village. I accepted the invitation. My greenhouse was used as control field working with traditional practices, while the greenhouse of my neighbour was the, so called, study field for IPM techniques. At the end of the cropping season, comparing the two fields, even though the results were the same in terms of production, we found out that there was a significant difference in the cost: the cost of production of my greenhouse was much higher if compared to the IPM greenhouse. The latter was sprayed only 12 times while my greenhouse 45 times!! Moreover, soil bio-fumigation gave better results than the Methyl Bromide used in my field.

After this experience, I stopped spraying! I asked the FFS members to use my greenhouse as IPM field study for the coming season. Now, I apply the techniques that I learnt from the FFS training directly in my field. I get better yield at less cost, and, most important, healthy food!

These results exceeded my expectations by far and made me very confident in applying the IPM approach to my crops”.



It's never too late to become an expert

■ Mr. Basheer Al Rihea is a farmer living in Ras Al Ein village, Lattakia province, in the coastal area of Syria. He is 60 years old and he is a tomato grower since 1994. He started attending a FAO IPM/FFS in 2005/06 season and became later a co-facilitator of IPM/FFS serving his village for a period of three years.

“In 2005 - Mr Al Rihea says - I used to rely on pesticide companies to know what I had to spray. I reached up to 30 sprayings (of different types of pesticides including Methyl Bromide to sterilize the soil) and 150 kg of fertilizers per season. When I joined the IPM/FFS group, I started hearing for the first time about IPM. I had the opportunity to learn about good alternatives to chemical pesticides. I strengthened my knowledge about the risks related to pesticides, how they can endanger human health, natural resources and the local environment. Then, I learnt a new technique, called the Agro-Eco System Analysis (AESAs), which help me to monitor my crop regularly and to consider all factors related to the crop, such as weather conditions, stage of the crop's growth, and pest developments. I stopped using Methyl Bromide to sterilize the greenhouse's soil and I replaced it with a safer and cheaper method: soil solarization. I reduced the number of fungicides application to 2-3 sprays only by improving the ventilation in the greenhouse. Moreover, I eliminated the use of insecticides by introducing biological control; I learnt how to rear natural enemies, such as green lacewing predator at farm level and how to release them.

I can say that I improved my decision-making skills through the participatory approach adopted by the IPM/FFS. Now, I'm able to apply in my greenhouse the best solutions for controlling tomato pests!

When my neighbours noticed the good results obtained participating to the RIPM Project activities, they decided to join the FFS as well. I was so happy for them!!

I've been also invited to attend a seminar at Tishrin University of Lattakia and I introduced to the audience, professors and students, what I have learned and the results I achieved. The audience couldn't believe that I was just a farmer and they thought I was an agricultural engineer; they even started calling me Dr. Al Rihea! Many students, then, came to visit my farm and received information about IPM/FFS techniques and results. I am extremely happy to have joined the FAO Regional IPM Project in Syria, because, participating in the IPM/FFS activities, I improved my knowledge; I increased the production quantity and improved the quality; furthermore, I reduced the costs of production and seen my income boosting (now I have 9 greenhouses instead of the 3 I had when started the IPM/FFS programme with FAO). Moreover, I've improved my marketing skills having many merchants purchasing my tomato willing to pay extra for my product. In the village, I became a greenhouse consultant, many farmers ask me for advice. I also joined the FAO Organic Project in 2009/10 season to produce Organic tomato. It will be the first time in Syria.

Finally, I believe that the most important outcome I have achieved is to be able to produce a clean and safe product, which contributes to the food safety of my family and my community.”

Tangible impact

■ Mr. Mousa Essa is an apple farmer from Barsheen village, Misiyf district, Hama province. Since 2005 he has been attending IPM/FFS activities under the FAO Regional IPM Programme in Syria.

After 2 years of training he became a facilitator in Barsheen village and he was the first farmer to run a FFS (which usually is run by an Agricultural Extension Officer).

Mr. Mousa says: “In 2005, the Head of Extension Unit in Barsheen invited me to attend a FFS on apple. It was something new for me, but I accepted because at that time I had just started growing apple in my farm and I didn’t have much experience (just one year); so, I thought that this “school” could be the right place to improve my skills on apple cultivation.

As soon as we started, I understood that I was spraying too many pesticides randomly, and with no satisfactory results; I used to spray more than 12 times in one season to control apple pests. In the IPM/FFS, with other farmers, we learnt the concept of IPM, we learnt about apple pests (insects, diseases,...etc), their life cycle, how to identify them, how to control them by using alternatives to pesticides, and how to identify beneficial insects which they are our “friends” and that, before, we usually considered them as harmful!



We started utilizing very simple materials to monitor the pests in our crop (such as pheromone traps); we learnt that we can determine the right time for intervention on Codling Moth (*Carpocapsa Pomonella*), one of the most important insect pests affecting apple orchards in our village. We, also, learnt how to use IGR (Insect Growth Regulator), which is safe for the health and environment, as well as we used cartoon traps to capture

hibernating larvae and pupae of the codling moth, thus helping to reduce the population of the following generation. I am so glad to say that the project contributed to increase the awareness in our neighbourhood about the risks associated with pesticides’ applications. The other farmers, who were not participating in our IPM/FFS, could see that we were improving the quality and increasing the yield by 10% while cutting down the costs of production.

At the end of the IPM/FFS, we established an informal group of farmers to meet regularly to discuss the problems still present in our fields and to promptly find solutions, as we used to do during the IPM/FFS.

Finally, I can say that the IPM/FFS is more than a school...together with other farmers you can learn, discuss and experience something interesting and useful with tangible benefits concerning economic, social, health, and environmental aspects. Thank you”